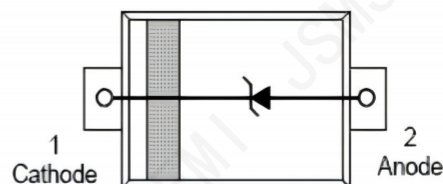


Description

The PESD3V3U1UB,115-JSM is designed to safeguard voltage - sensitive components against ESD (Electrostatic Discharge) and transient voltage events. With excellent clamping capabilities, low leakage, and a fast response time, these devices are ideal for ESD protection in designs where board space is limited.



Features

- Small Body Outline Dimensions
- Low Body Height
- Stand - off Voltage: 3.3V
- Peak Power up to 150 Watts @ 8 x 20μs Pulse
- Low Leakage
- Response Time is Typically <1 ns
- ESD Rating of Class 3 (>16 kV) per Human Body Model
- IEC61000 - 4 - 2 Level 4 ESD Protection
- IEC61000 - 4 - 4 Level 4 EFT Protection
- The material of the product complies with RoHS requirements.

Applications

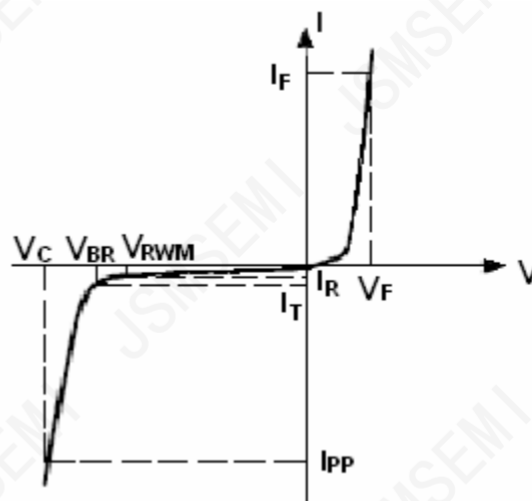
- Cellular phones
- Portable devices
- Digital cameras
- Power supplies

Maximum Ratings(TA=25°C)

Symbol	Parameter	Value	Units
P _{PP}	Peak Pulse Power (t _p = 8/20μs)	150	W
T _L	Maximum lead temperature for soldering during 10s	260	°C
T _{stg}	Storage Temperature Range	-55 to +150	°C
T _{op}	Operating Temperature Range	-40 to +125	°C
T _j	Maximum junction temperature	150	°C
	IEC61000-4-2 (ESD) air discharge	±20	KV
	contact discharge	±20	
	IEC61000-4-4 (EFT)	40	A
	ESD Voltage Per Human Body Model	16	KV

Electronics Parameter

Symbol	Parameter
I_{PP}	Maximum Reverse Peak Pulse Current
V_C	Clamping Voltage @ I_{PP}
V_{RWM}	Working Peak Reverse Voltage
I_R	Maximum Reverse Leakage Current @ V_{RWM}
I_T	Test Current
V_{BR}	Breakdown Voltage @ I_T
I_F	Forward Current
V_F	Forward Voltage @ I_F



Electrical Characteristics

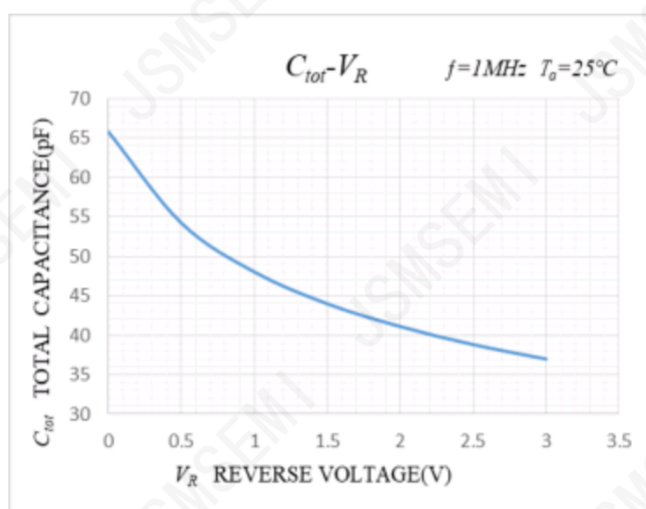
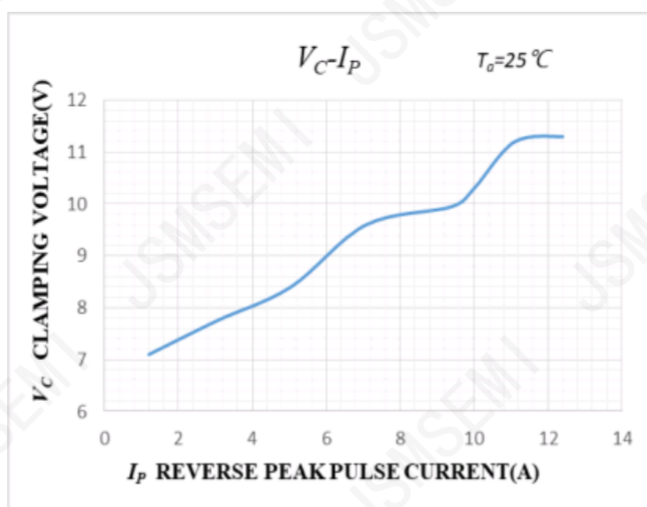
Ratings at 25°C ambient temperature unless otherwise specified $V_F=0.9V$ at $I_F=10mA$

Device	V_{RWM} (V)	$I_R(\mu A)$ @ V_{RWM}	$V_{BR}(V)$ @ I_T (Note1)	I_T	$V_{BR}(V)$ @ I_T (Note1)	$V_C(V)$ @ $MaxI_{PP}^*$	I_{PP} (A)*	P_{PK} (W)*	C (pF)
	Max	Max	Min	mA	Max	Max	Max	Max	Typ
PESD3V3U1UB,115-JSM	3.3	1	5.0	1	8.4	15	10	150	50

*Surge current waveform per Figure1.

1. V_{BR} is measured with a pulse test current I_T at an ambient temperature of 25°C.

Typical Performance Curves



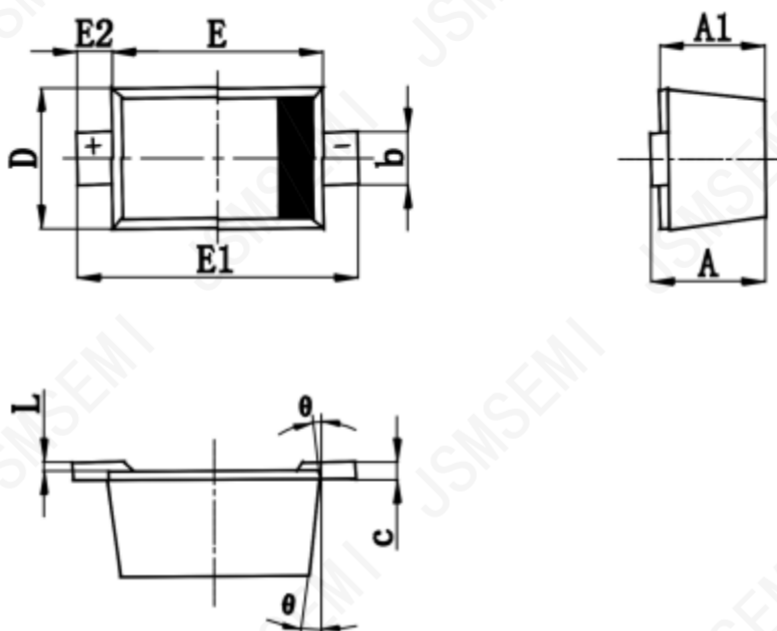
Application Note

Electrostatic discharge (ESD) is a major cause of failure in electronic systems. Transient Voltage Suppressors (TVS) are an ideal choice for ESD protection. They are capable of clamping the incoming transient to a low enough level such that damage to the protected semiconductor is prevented.

Surface mount TVS offer the best choice for minimal lead inductance. They serve as parallel protection elements, connected between the signal line to ground. As the transient rises above the operating voltage of the device, the TVS becomes a low impedance path diverting the transient current to ground. The PESD3V3U1UB,115-JSM is the ideal board level protection of ESD sensitive semiconductor components.

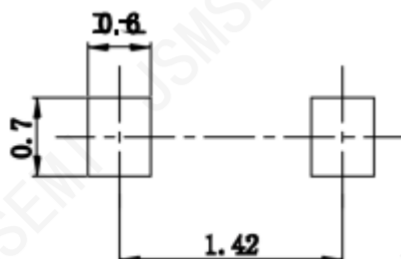
The tiny SOD-523 package allows design flexibility in the design of high density boards where the space saving is at a premium. This enables to shorten the routing and contributes to hardening against ESD.

SOD-523 Package Outline Dimensions



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	0.510	0.770	0.020	0.031
A1	0.500	0.700	0.020	0.028
b	0.250	0.350	0.010	0.014
c	0.080	0.150	0.003	0.006
D	0.750	0.850	0.030	0.033
E	1.100	1.300	0.043	0.051
E1	1.500	1.700	0.059	0.067
E2	0.200 REF		0.008 REF	
L	0.010	0.070	0.001	0.003
θ	7° REF		7° REF	

Suggested Pad Layout



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.

Revision History

Rev.	Change	Date
V1.0	Initial version	6/27/2021

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